

## GXE series

### Features

- ◆ The series has guaranteed operation of 1~2000 hours at 125°C and also has the Wide operating temperature range, -40 to +125°C
- ◆ Applications : High reliability equipment , filtering circuit of switching power supply ,and industrial control equipment.
- ◆ For detail specifications , please refer to Engineering Bulletin No.E129.



### Specifications

Item	Performance Characteristics																							
Operating Temperature Range	-40~+125°C	-25~+125°C																						
Rate Voltage Range	10~100VDC	160~350VDC																						
Capacitance Range	0.47~1000uf	1~100uf																						
Capacitance Tolerance	±20% (120Hz, +20°C)																							
Leakage current (+20°C,max.)	$I \leq 0.01CV$ 或 $3(\mu A)$ After 2 minutes whichever is greater measured with rated working voltage applied	$I \leq 0.02CV(\mu A)$ After 1 minute with rated working voltage applied																						
Dissipation factor (tgδ)	<table border="1"> <tr> <td>Working Voltage(VDC)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>D.F(%)max</td> <td>18</td> <td>15</td> <td>13</td> <td>12</td> <td>10</td> <td>8</td> <td>7</td> </tr> </table>								Working Voltage(VDC)	10	16	25	35	50	63	100	D.F(%)max	18	15	13	12	10	8	7
	Working Voltage(VDC)	10	16	25	35	50	63	100																
D.F(%)max	18	15	13	12	10	8	7																	
		<table border="1"> <tr> <td>Working Voltage(VDC)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> </tr> <tr> <td>D.F(%)max</td> <td>7</td> <td>8</td> <td>10</td> <td>12</td> </tr> </table> For capacitance >1000uf ,add 2% per another 1000uf.						Working Voltage(VDC)	160	200	250	350	D.F(%)max	7	8	10	12							
Working Voltage(VDC)	160	200	250	350																				
D.F(%)max	7	8	10	12																				
Low Temperature Characteristics (120Hz)	Impedance ratio max.																							
	Working Voltage(VDC)	10	16	25	35	50	63	100	160~250	350~450														
	Z-25°C/ Z+20°C	3	2	2	2	2	2	2	3	6														
	Z-40°C/ Z+20°C	4	4	4	4	4	4	4	6	-														
Load Life	Test conditions Duration time : 1000~2000Hrs Ambient temperature : +125°C Applied voltage : Rated DC working voltage After test requirement at +20°C Capacitance change : ≤±20% of the initial measured value Dissipation factor : ≤300% of the initial specified value Leakage current : ≤The initial specified value						<table border="1"> <tr> <th>DΦ</th> <th>Life hours</th> </tr> <tr> <td>≤8Φ</td> <td>1000</td> </tr> <tr> <td>≥10Φ</td> <td>2000</td> </tr> </table>		DΦ	Life hours	≤8Φ	1000	≥10Φ	2000										
	DΦ	Life hours																						
≤8Φ	1000																							
≥10Φ	2000																							
Shelf Life	Test conditions Duration time : 1000Hrs Ambient temperature : +125°C Applied voltage : None After test requirement at +20°C : Same limits as Load life. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes																							

### Multiplier for Ripple Current vs. Frequency

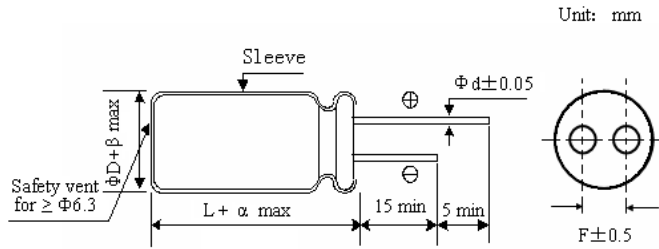
CAP(μF)	50(60)	120	400	1k	10k	50k-100k
Frequency (Hz)						
CAP ≤ 10	0.8	1	1.30	1.45	1.65	1.70
10<CAP≤ 100	0.8	1	1.23	1.36	1.48	1.53
100<CAP≤1000	0.8	1	1.16	1.25	1.35	1.38
1000 < CAP	0.8	1	1.11	1.17	1.25	1.28

### Multiplier for Ripple Current vs. Temperature

Temperature °C	45	60	70	85	95	105	125
Factor	1.80	1.55	1.50	1.45	1.30	1.15	1.00

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## Diagram of Dimensions



ΦD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5			0.6		0.8	

a	D<18	D=18		D>18
		L<35.5	L≥35.5	
	1.5	1.5	2.0	2.0

## Case Size

Voltage	10V		16V		25V		35V		50V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
4.7										
10									6.3×12	48
22					6.3×12	70	6.3×12	82	6.3×12	75
									8×12	88
33			6.3×12	91	6.3×12	100	8×12	108	8×12	122
47	5×11	92	6.3×12	110	6.3×12	110	8×12	130	8×12	140
					8×12	130	10×13	158	10×13	164
100	6.3×12	145	6.3×12	175	8×12	210	10×13	230	10×16	250
			8×12	206	10×13	250	10×16	262	10×20	277
220	8×12	330	8×12	340	10×13	420	10×16	480	10×25	560
			10×13	400	10×16	470	10×20	540	13×21	587
330	8×12	340	10×13	470	10×16	570	10×25	680	13×21	810
	10×13	410	10×16	525	10×20	631	13×21	718	13×25	900
470	10×13	505	10×16	650	10×25	770	13×21	810	13×25	900
	10×16	525	10×20	720	13×20	810	13×25	900	16×25	1000
1000	10×16	870	10×25	950	13×25	970	16×25	1080		
	10×20	960	13×21	1000	16×25	1100	16×32	1200		

Voltage	100V		160V		200V		250V		350V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
0.47	6.3×12	14								
1	6.3×12	24	6.3×12	30	6.3×12	36	6.3×12	41	8×12	45
2.2	6.3×12	31	6.3×12	37	6.3×12	43	6.3×12	42	8×12	47
							8×12	50	10×13	55
3.3	6.3×12	36	6.3×12	37	8×12	48	8×12	50	10×16	60
			8×12	41			10×13	53	10×16	60
4.7	6.3×12	38	8×12	52	8×12	50	10×13	60	10×16	68
	8×12	45			10×13	60	10×16	68	10×20	75
10	8×12	60	8×12	70	10×13	80	10×16	83	10×25	105

Ripple Current (mA,rms) at 105°C 100KHz  
Max Impedance (Ω) at 20°C 100KHz

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## Case Size

Voltage	100V		160V		200V		250V		350V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
10	10×13	70	10×13	82	10×16	88	10×20	92	13×21	110
22	10×13	90	10×16	115	10×25	125	13×21	145	13×25	160
	10×16	100	10×20	128	13×21	135	13×25	160	16×25	180
33	10×16	140	10×25	155	13×21	155	13×25	164	16×25	180
	10×20	158	13×21	164	13×25	172	16×25	185	16×32	200
47	10×25	175	13×21	180	13×25	190	16×25	205	16×32	230
	13×21	185	13×25	200	16×25	215	16×32	230	16×36	245
100	13×25	270	13×25	320	16×25	360				
	16×25	310	16×25	365	16×32	400				

Ripple Current (mA,rms) at 105°C 100KHz

Max Impedance (Ω) at 20°C 100KHz